

dislocation treated in this way only one died, although at this time recoveries were extremely rare, and the accident was regarded as one of the most dangerous known to surgeons.

Carbolic acid was first brought to Lister's notice by reading accounts of its deodorising action upon the sewage of Carlisle, and it is interesting to note that this, the first substance used by Lister in his antiseptic method, still retains its pre-eminence as an all-round antiseptic.

These first methods were only a beginning, and throughout the whole course of his active life Lister busied himself in perfecting his method, striving to find means whereby asepsis could be secured with a minimum irritation of tissues, without deviating in the slightest degree from those scientific principles which had guided him at the outset of his work.

The conquest of suppuration not only perfected older operations, but opened the way for new ones, and Lister himself introduced a large number of these. Joints, interference with which had been looked upon as utterly unjustifiable, were opened with impunity, fractures with vicious union were exposed and rectified, new principles in amputation introduced, and the use of the aseptic ligature, by obviating the risks of hæmorrhage, removed one of the greatest dangers of surgery.

Not the least interesting of the papers collected in these volumes is that on anæsthetics, a subject to which Lister devoted a considerable amount of attention, and in view of the recently proposed legislation it is interesting to note that Lister strongly disapproved of specialists in this branch of practice, holding that the administration of an anæsthetic called for care rather than for special skill and experience.

Lister in all his writings frankly and gratefully acknowledged and appreciated the work of others, especially Pasteur, and that "hard-worked general practitioner," Koch. His work is its own monument; it has given modern surgery to mankind, and so simplified its performance that operations can be performed without any particular comment which fifty years ago would have left the whole world agghast at their daring.

A NATURALIST IN ECUADOR.

Nel Darien e nell' Ecuador. Diario di viaggio di un Naturalista. By Dr. E. Festa. Pp. xvi+397. (Torino: Unione Tip.-Editrice Torinese, 1909.) Price 10 lire.

DR. E. FESTA'S main object was the zoological exploration of Ecuador. However, as the isthmus of Darien or Panama lies on the way to Ecuador, and since this interesting country happened to pass through one of its revolutions, he spent the time from the months of May to September, 1895, on the isthmus, chiefly among the intricate inlets of the Gulf of San Miguel, on the Pacific side, extending thereby his collecting over every class of the animal kingdom, from sponges to mammals.

After the political conditions had become a little

more settled, he went to Ecuador in September, 1895, and stayed there to April, 1898. Entering the country by Guayaquil, he travelled east to Cuenca and beyond, to the headwaters of the Rio Santiago of the Marañon system, and northwards by Quito to Julian, near the frontier of Colombia. His travels, extending, roughly speaking, from 4° latitude south to 1° north, and between 80° to 78° longitude west, cover only a small part of the vast country of Ecuador, but he explored it thoroughly.

He was much indebted to the President of the Republic; for instance, on the strength of his official credentials the local authorities occasionally commandeered porters and mules. Above all, he was helped by the missions of the Società Salesiana de Torino, and he had the inestimable advantage of being accompanied on his perilous excursions through the forests of the Santiago district by a former compatriot, Sr. G. Pancheri. An agreeable feature was the hospitality offered by many Ecuadorean owners of haciendas. About 500 specimens of mammals, more than 3000 birds, 150 different kinds of reptiles and amphibians, as many kinds of fishes, and ever so many invertebrates, were brought together and given to the Royal Museum at Turin. They testify to the richness of the fauna, and last, not least, to the enormous labours of Dr. Festa and the Italian collector whom he was able to take with him. However, they took whatever kind they could, and of every kind as many specimens as possible. For instance, no fewer than nine condors were shot at one spot, and in typically national style the travellers spread nets in forest and garden, and gloated over the numbers of little beauties ensnared. The step thence to that pest, the plume-hunter, seems but small; at least, it is a bad example to the natives.

Naturally our author experienced many ups and downs, but he had no hairbreadth escapes, as such are now of rare occurrence to veracious travellers. Already in the mangrove swamps of Darien he suffered much from fever and severe gastric troubles, and camp life was often utterly spoiled by the pests of insects. It was not only the stinging, poisonous kinds, but a great aggravation were the stingless bees, *Melipone*, big and small, which in their numbers insinuated themselves into the hair, mouth, nose, and ears. To make work possible, the traveller had to put smouldering branches upon the table. Some kind of *Oestrus* stung Dr. Festa in the abdomen, causing several months of torment, and after opening the swelling he extracted a fat maggot, four centimetres in length. The horses suffered indirectly from the bites of the blood-sucking bats, *Desmodus*, because flies deposited their eggs in the little wounds, and the maggots caused enormous ulcers. Sand-fleas, *Sarcopsylla penetrans*, were a plague in many places, and every specimen of digging rodents had its feet infested with them.

Several specimens of the Andine bear, *Tremarctos ornatus*, were procured. This creature, preferring to travel in comfort, prepares its bed on the ground, by covering a space about a yard in diameter with branches and twigs to lie upon during the night.

After having found such "beds," the travellers came across a family of bears, which had their lair at the foot of a tree, hidden by dense foliage. When dislodged, some of them climbed about rapidly.

The beautiful Morpho butterflies were abundant at places, and not at all shy. On the contrary, they alighted upon the table and sucked from the dishes during breakfast. At Cuenca Dr. Festa was treated to the spectacle of a fierce battle, which lasted all day long, and on the following day the victor entered the town after a loss of 900 dead. A rather full and interesting account is given of the Iivaros tribe of Indians, who, not yet appreciating the value of money, required knives, guns, needle and thread, &c., for barter. The wilder they were, the better they were as collectors. Their special weapon is the blow-pipe. A favourite ornament of both sexes, besides painting themselves, is a wooden lip-plug, one inch long and half an inch thick, with pendants of needles, the brightly-coloured wings of beetles, &c. The house is large, of the type of the communal house, the sexes occupying different quarters of the same large room, and to each woman's bed are tied several fierce watchdogs.

In the mountains of the province of Carchi were procured a considerable number of antique specimens of pottery and some crania.

Unfortunately, this book is written mostly in the style of a diary, which does not well lend itself to generalisations, but rather to matter-of-fact records of animals and plants observed. It would have been interesting to read how the Ecuadorean civilisation appeared to an Italian, a cultured representative of another Latin race. The English-speaking civilisation is too divergent from the Latin-American in almost every walk of life really to understand it and to appreciate its many good points. However, the author is modest, and enlivens his account of the many things he has done and seen with but little humour.

The book, printed in excellent type and on very good paper, and adorned with some seventy or eighty, mostly full-paged, beautifully reproduced photographs, seems wonderfully cheap for the price of 8s.

AUSTRALIAN ANIMALS.

The Animals of Australia. Mammals, Reptiles, and Amphibians. By A. H. S. Lucas and W. H. Dudley le Souëf. Pp. xi+327. (Melbourne: Whitcombe and Tombs, Ltd., 1909.) Price 15s. net.

MESSRS. LUCAS AND LE SOUËF have given us a book which ought to find a very hearty welcome, especially amongst Australian naturalists. Whilst intended primarily for the general reader, the arrangement and treatment are throughout thoroughly scientific, and the illustrations, many of which are from original photographs, are, on the whole, very good. The full-page photograph of a wheelbarrow on p. 179 is perhaps a little superfluous, however. It is true that the wheelbarrow contains a snake, but it is

a very small one, and a much better photograph of the same snake is given on another page.

The information that the number of Australian species of Eutheria is the same as that of the marsupials (106) comes rather as a surprise, even if, as we suppose, it includes introduced species.

The authors have a melancholy tale to tell of the rate at which the marsupials are being exterminated for the sake of their skins. It appears that no fewer than 873,837 "opossum" skins were offered for sale in the Sydney market alone during the year 1908, and other species in hardly less alarming numbers.

The section dealing with the snakes is one of the most interesting. Death from snake-bite appears to be rare in Australia, although many of the species are poisonous, and some of them deadly. In case of snake-bite, however, most people prefer to err on the safe side, though there are probably not many who have so much to show for their mistake as the man who exhibits to his friends a bottle containing one of his own fingers and a perfectly harmless snake by which it had been bitten! Snake-stories form an important part of the literature of the Australian bush, but we do not recollect having heard before about the tiger-snake which was found enjoying a sun-bath balanced on the topmost wire of a fence, with the folds of the body nicely adjusted on each side to maintain the balance. We are told that the Australian snakes do not charm or fascinate their prey in any way (p. 156). If this is so, we are at a loss to understand the photograph on p. 181, which, at first sight, at any rate, looks like a snake fascinating a hen; perhaps, however, the hen is refusing to be fascinated.

One difficulty which has to be overcome by the writer of a popular book on natural history in a "new" country is the absence of a popular terminology. To some extent Messrs. Lucas and le Souëf have endeavoured to supply this deficiency; notably in the case of the Agamid lizards, for which they suggest the name "Dragons." Thus *Amphibolurus maculatus* is to be known as the "Military Dragon," presumably on account of its brilliant colours; but we should hardly have thought that "Queen Adelaide's Dragon" was an appropriate rendering of *Amphibolurus adelaidensis*, the termination of the specific name suggesting a geographical rather than a personal reference. In a few cases the Australian public has already taken the matter of nomenclature into its own hands, as in the well-known case of "Goana," which is, of course, a corruption of "Iguana," a name popularly but erroneously applied to the "lace monitor" (*Varanus varius*).

Although the book does not profess to deal with the fishes, the authors have not been able to resist the temptation to include an account of *Ceratodus*, evidently on the ground that it is "part fish, part amphibian." The amphibian part seems hardly sufficient to justify its inclusion, but we must admit that the temptation was very strong.

The book is well got up, though the paper is unpleasantly glossy. We can strongly recommend it to all who are interested in Australian natural history.